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**Fire and Police Graduate Advanced Fire Investigation Course**

State Fire Marshal Stephen D. Coan and Massachusetts Firefighting Academy Director Edmund Walker are pleased to announce the graduation of 39 members of the Massachusetts Firefighting Academy's six-day *Advanced Fire Investigation* course on Wednesday, December 12, 2012. This rigorous professional training provides fire, and state and local police officers with the advanced skills to accurately determine the origin and cause of fires in their jurisdictions and together, build solid, prosecutable cases. The Massachusetts Firefighting Academy, a division of the Department of Fire Services, offers this program, tuition-free.

**Team Concept of Fire Investigation**

State Fire Marshal Coan said, "The team concept of fire investigation has been used successfully in Massachusetts for over a decade and it starts with joint training." He added, "When police and fire are trained in the same techniques and procedures together, the consistency leads to solid cause and origin determinations, and when arson is the cause, solid criminal cases."

Massachusetts Firefighting Academy Director Edmund M. Walker said, "This course provides students with fire scene experience from investigation through courtroom testimony. They are exposed to the investigatory process as outlined in the National Fire Protection Association Standard 921: Guide for Fire and Explosion Investigations."

*Administrative Services • Division of Fire Safety*  
*Hazardous Materials Response • Massachusetts Firefighting Academy*

**39 Graduates: 30 Firefighters and Five Local Police & Four State Police Officer**

The 39 graduates, including five local police officers, four Massachusetts State Police officer and 30 fire-fighters, represent the following agencies:

Acton Fire Department	Hingham Fire Department
Athol Fire Department	Holden Fire Department
Athol Police Department	Holden Police Department
Attleboro Fire Department	Holyoke Fire Department
Bedford Fire Department	Lexington Fire Department
Belchertown Police Department	Lexington Police Department
Billerica Fire Department	Lowell Fire Department
Boston Fire Department	Lynn Fire Department
Braintree Fire Department	Mass. State Police
Brockton Fire Department	Medford Fire Department
Chelsea Fire Department	New Bedford Fire Department
Dartmouth Dist.3 Fire Department	North Reading Fire Department
Easton Fire Department	Norwood Fire Department
Fall River Fire Department	Southbridge Fire Department
Halifax Fire Department	Waltham Fire Department
Hardwick Fire Department	Westford Fire Department
Hardwick Police Department	Weymouth Fire Department

The six-day advanced fire investigation course covers the concepts of fire behavior, scene examination, fire scene documentation, evidence collection, witness interviewing, and management of major fire investigations in more depth than the basic fire investigation class. It also addresses the legal issues of managing fire scenes, evidence collection, and concludes with practical exercises of participating in the courtroom process. Students give mock depositions and participate in both a mock grand jury and a mock trial. The program covers unintentional fires, intentionally set fires, automobile fires, fatal fires and wildland fires.

**Origin and Cause Determination**

Fire investigators work to first determine the point of origin of the fire and then its cause. Once they are able to determine the point of origin, they often rely on witness statements to identify the possible sources of ignition at that point and then work to eliminate each possible ignition source, one by one, until they are left with only one most probable cause.

Fire investigators are trained to examine a fire scene by going from the minimum amount of burn damage to the point or points with the maximum amount of burn damage. The rationale being that the fire has been burning longest where the most damage is and that is often where the fire began. In addition, they learn to analyze burn patterns that can reveal how the fire spread, how hot it was and how long it burned. They learn how to effectively collect evidence samples, how and when to avail themselves of resources such as accelerant-detection canines, state police fire investigators in the Office of the State Fire Marshal, and technical experts such as electricians.

### **Witness-Driven Protocol**

Massachusetts uses a witness-driven protocol of fire investigation. Investigators want to interview people who know the building or saw the fire start as quickly as possible while memories are fresh or before those displaced by the fire become hard to locate. Investigators compare the witness statements to the evidence found in the forensic scene examination to determine the cause of the fire. With possibly a large number of people to interview quickly, the benefit of the added manpower a team investigation brings is obvious. Investigators compare notes and often need to re-interview witnesses for clarification. A deep understanding of fire behavior is essential to evaluating witness statements.

Coan said, “It is a challenge to determine the cause of the fire when so much of the needed evidence is destroyed by the fire itself. Fires can also create evidence which assists investigators. This training provides our local fire and police investigators with the skills and knowledge to meet that challenge.”